

Contents

Influence of CuO, Al ₂ O ₃ , Fe ₂ O ₃ nanoparticles and γ – quanta on crude oil transformation: the role of concentration and structure effects M.K. Ismayilova, F.N. Nurmammadova, S.M. Aliyev.....	5
Assessment of heavy metal and radionuclide contamination in water samples taken from Nakhchivan region of Azerbaijan M.M. Ahmadov, F.Y. Humbatov, S.Sh. Mammadzada, V.S. Balayev, N.A. Ibadov.....	14
AFM-microscopy study of the surface of gamma-irradiated GaS and GaS:Yb layered crystals F.G. Asadov.....	24
Dielectric and optical properties of gamma-irradiated composites based on nitrile butadiene rubber and zirconium oxide nanoparticles R.F. Khankishiyeva.....	30
The combined structure of nitrile-butadiene rubber by influence of heat and ionizing radiation in the presence of triazine and maleimid compounds H.N. Akhundzada, Sh.M. Mammadov, A.I. Azadaliyev, J.S. Mammadov, G.A. Mammadova, P.I. Ismayilova.....	38
Impedance spectrum of TlGaSe ₂ crystal implanted with He ⁺ ions S.F. Samadov.....	44
Crystallin structure and differential thermal analysis of CuTlS compound R.S. Madatov, G.B. Baylarov, R.M. Mamishova, M.N. Mirzayev.....	50
Holographic calculation of the π meson-octet baryon coupling constant Sh.A. Mamedov, Sh.I. Taghiyeva.....	55
The effect of γ -irradiation on the electrophysical properties of GaS monocrystal doped with Yb and Sm A.Sh. Khaligzadeh.....	60
The influence of external fields on the luminescence characteristics of nanostructure CaGa ₂ S ₄ :Eu R.A. Abdulheyov.....	65
Radiolysis of transformer oil in the presence of polychlorobiphenyls and nano- γ -Al ₂ O ₃ Z.I. Iskenderova.....	73
Isothermal decay of the thermoluminescence (TL) glow curves in feldspar at an ambient temperature S. Mammadov, M. Bayramov, A. Abishov, A. Ahadova.....	80

The impact of silicon mass on the radiolysis process occurring under the influence of γ -quanta on nano-Si/H ₂ O suspension system S.M. Bashirova	89
Influence of gamma radiation on electrophysical properties of nanocomposites obtained on the basis of high-density polyethylene and nano-size A.A. Nabiyeu	97
The influence of gamma irradiation on the volt-ampere characteristics of the TlGaTe ₂ crystal N.M. Mehdiyev, A.A. Babayeva	105
Role of low-molecular antioxidants in the reaction of pea plant to the separate and combined effects of salt and radiation stress M.Z. Velijanova	110
Influence of the processing of seeds with gamma rays before sowing on the activity of CO ₂ metabolism enzymes in some plants K.G. Garayeva	119
The occurrence of defects in hard alloys $Tb_xSn_{1-x}Se$ within the γ -irradiation T.A. Jafarov	126